



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL
FULTON COUNTY**

CERTIFIED MAIL

Street Address:

50 West Town Street, Suite 700

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 03-17375

Fac ID: 0326000207

DATE: 2/26/2008

Zinc + Iron Recycling of Ohio, LLC
Tony Rhymer
PO Box 100
Delta, OH 43515

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00 which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, OH 43215

Sincerely,

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

CC: USEPA

NWDO



**Permit To Install
Terms and Conditions**

**Issue Date: 2/26/2008
Effective Date: 2/26/2008**

FINAL PERMIT TO INSTALL 03-17375

Application Number: 03-17375
Facility ID: 0326000207
Permit Fee: **\$8400**
Name of Facility: Zinc + Iron Recycling of Ohio, LLC
Person to Contact: Tony Rhymer
Address: PO Box 100
Delta, OH 43515

Location of proposed air contaminant source(s) [emissions unit(s)]:

**State Route 109
Delta, Ohio**

Description of proposed emissions unit(s):

Zinc oxide recycling facility.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski
Director

Zinc + Iron Recycling of Ohio, LLC
PTI Application: 03-17375
Issued: 2/26/2008

Facility ID: 0326000207

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon

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the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

7. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

9. Construction of New Sources(s)

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The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

10. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

11. Applicability

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

12. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

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13. Source Operation and Operating Permit Requirements After Completion of Construction

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this

Emissions Unit ID: **P001**

permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the emissions unit(s) covered by this permit.

14. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

15. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only) TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
NOx	71.73
CO	51.05
PM10	71.45
SO2	22.04
OC	6.33
HCI	5.32

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment - (P001) - Coal Receiving, Transfer, and Storage

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(C)	<p><u>Receiving and Transfer Operations</u> 0.005 grain of particulate matter 10 microns or less in size (PM10) per dry standard cubic foot (dscf) and 2.82 tons per year</p> <p>Visible particulate emissions shall not exceed 0% opacity, as a six-minute average from the baghouse serving the receiving and transfer operations</p> <p>There shall be no visible fugitive particulate emissions from the building housing the receiving and transfer operations</p> <p><u>Storage Silo</u> 0.03 grain of PM10/dscf and 0.01 tons of PM10/year</p> <p>Visible particulate emissions shall not exceed 0% opacity, as a six-minute average from the fabric filter serving the storage silo</p> <p>See A.2.a.</p>
OAC rule 3745-17-11(B)	See A.2.b.
OAC rule 3745-17-07(A)	See A.2.c.

2. Additional Terms and Conditions

- 2.a Permit to Install 03-17375 for this air contaminant source takes into account the following voluntary restrictions as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

- i. use of a baghouse for the receiving and transfer operations that achieves

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a maximum outlet concentration of 0.005 grain of PM10/dscf and an associated 0% opacity, as a six-minute average;

- ii. use of a fabric filter for the storage silo that achieves a maximum outlet concentration of 0.03 grain of PM10/dscf and an associated 0% opacity, as a six-minute average; and
- iii. conducting all receiving and transfer operations in a building resulting in no visible fugitive particulate emissions from the building.

The potential to emit (PTE) for this emissions unit is 2.83 tons of PM10 per year and was determined by adding the potential emissions from the receiving/transfer operations and the potential emissions from the storage silo.

The PTE for receiving and transfer operations was determined by multiplying the following; a maximum outlet concentration of 0.005 grain PM10/dscf, a maximum volumetric air flow rate of 15,000 acfm, and a maximum operating schedule of 8760 hrs/yr, applying the appropriate conversion factors of 7000 grains/lb, 1 dscf/1acfm, 60 minutes/hr and dividing by 2000lbs/ton resulting in 2.82 tons PM10/yr.

The PTE for silo storage operations was determined by multiplying the following; a maximum outlet concentration of 0.03 grain PM10/dscf, a maximum annual silo air displacement of 2,930,000 acf/yr (this value is associated with a maximum coal storage amount of 54,844 tons/yr), applying the appropriate conversion factors of 7000 grains/lb, 1 dscf/1acfm, and dividing by 2000lbs/ton resulting in 0.01 ton PM10/yr.

All emissions of particulate matter from this emissions unit is PM10.

- 2.b** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(C). This determination is based on all emissions of particulate matter being PM10 and the established PM10 limitation being more restrictive than particulate emissions limitation established by OAC rule 3745-17-11(B). Particulate emissions (PE) measured using Method 5 of 40 CFR Part 60, Appendix A would be equivalent to the filterable particulates measured using Method 201/201A of 40 CFR, Part 51, Appendix M. A PM10 limitation is more stringent due to the inclusion of condensable particulate matter measured by Method 202 of 40 CFR, Part 51, Appendix M.

Emissions Unit ID: **P001**

- 2.c** The opacity restriction specified by this rule is less stringent than the opacity restriction established pursuant to OAC rule 3745-31-05(C).

B. Operational Restrictions

1. The permittee shall operate the baghouse at all times when this emissions units is in operation.
2. The maximum sulfur content of the coal received shall not exceed 1.5 percent by weight.
3. The maximum annual coal throughput for this emissions unit shall not exceed 54,844 tons.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse stack and silo vent serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log, as well as the date and time the daily check was performed. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive emissions shall be noted in an operations log, as well as the date and time the daily check was performed. If visible fugitive emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
3. The permittee shall maintain records documenting any time periods when the

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emissions unit was in operation and the baghouse was not operating.

4. The permittee shall maintain monthly records of the amount (tons of coal per month and total tons of coal, to date for the calendar year) of material throughput for this emissions unit.
5. The permittee shall collect or require the coal supplier to collect a representative grab sample of each shipment of coal that is received by this emissions unit. The permittee shall perform the coal sampling in accordance with ASTM method D2234, Standard Practice for Collection of a Gross Sample of Coal and analyze the coal sample for sulfur content(percent). The analytical methods to be used to determine the sulfur content shall be the most recent version of ASTM method D3177, Standard Test Methods for Total Sulfur in the Analysis Sample of Coal and Coke or ASTM method D4239, Standars Test Methods of sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods. Alternative, equivalent methods may be used upon written approval from the Northwest District Office.

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D. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the baghouse stack and silo vent serving this emissions unit (b) identify all days during which any visible fugitive particulate emissions were observed from the egress points serving this emissions unit (c) describe any corrective actions taken to eliminate the visible particulate emissions from the baghouse stack and (d) describe any corrective actions taken to eliminate the visible fugitive particulate emissions from the egress points serving this emissions unit. These reports shall be submitted to the Ohio EPA, NWDO by January 31 and July 31 of each year and shall cover the previous 6-month period.
2. The permittee shall submit deviation (excursion) reports that identify any time periods when the emissions unit was in operation and the baghouse was not operating. Each report shall be submitted within 30 days after the deviation occurs.
3. The permittee shall submit annual records that summarize the total annual material throughput for this emissions unit, in tons of coal. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.
4. The permittee shall submit, on a quarterly basis, copies of the permittee's or coal supplier's analyses (wet and/or dry) for each shipment of coal which is received for burning in this emissions unit. The permittee or coal suppliers analyses shall document the sulfur content(percent) of each shipment of coal. The total quantity of coal received in each shipment shall also be included with the copies of the permittee's or coal supplier's analyses.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitation - Receiving and Transfer Operations:
0.005 grain of PM10/dscf, and 2.82 tons PM10/year

Applicable Compliance Method:

The 0.005 grain of PM10/dscf emission limitation was established in accordance with the manufacturer's specifications for the maximum outlet grain loading concentration for this baghouse.

Emissions Unit ID: **P001**

If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A, and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The annual emission limitation represents the PTE for this portion of the emissions unit. The PTE was determined by multiplying the following; a maximum outlet concentration of 0.005 grain PM10/dscf, a maximum volumetric air flow rate of 15,000 acfm, and a maximum operating schedule of 8760 hrs/yr, applying the appropriate conversion factors of 7000 grains/lb, 1 dscf/1acfm, 60 minutes/hr and dividing by 2000lbs/ton. Therefore, provided compliance with the 0.005 gr/dscf is maintained, compliance with the annual PM10 limitation shall be assumed.

b. Emission Limitation - Storage Silo:

0.03 grain of PM10/dscf, and 0.01 ton PM10/year

The 0.03 grain of PM10/dscf emission limitation was established in accordance with manufacturer's specifications for the maximum outlet grain loading concentration for this fabric filter.

If required, the permittee shall demonstrate compliance testing in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A, and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The annual emission limitation represents the PTE for this portion of the emissions unit. The PTE was determined by multiplying the following; a maximum outlet concentration of 0.03 grain PM10/dscf, a maximum annual silo air displacement of 2,930,000 acf/yr (this value is associated with a maximum coal storage amount of 54,844 tons/yr), applying the appropriate conversion factors of 7000 grains/lb, 1 dscf/1acfm, and dividing by 2000lbs/ton resulting in 0.01 ton PM10/yr. Therefore, provided compliance is shown with the maximum coal throughput, compliance with the annual PM10 limitation shall be assumed.

c. Emission Limitation:

Visible particulate emissions shall not exceed 0% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of

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Performance for New Stationary Sources."

F. Miscellaneous Requirements

None

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PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. Applicable Emissions Limitations and/or Control Requirements**

- The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment - (P002) - Reductant Pulverizing System and Storage

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(C)	<p><u>Pulverizing system</u> 0.005 grain of particulate matter 10 microns or less in size (PM10) per dry standard cubic foot (dscf) and 0.68 tons per year</p> <p>Visible particulate emissions shall not exceed 0% opacity, as a six-minute average from the baghouse serving the reductant pulverizing system</p> <p>There shall be no visible fugitive particulate emissions from the building housing the reductant pulverizing system</p> <p><u>Storage Silo</u> 0.03 grain of PM10/dscf, and 0.01 ton PM10/year</p> <p>Visible particulate emissions shall not exceed 0% opacity, as a six-minute average from the fabric filter serving the storage silo</p> <p><u>Combustion Chamber</u> 0.60 lb of Nitrogen oxides (NOx)/hour and 2.63 tons NOx/year</p> <p>0.50 lb Carbon monoxide (CO)/hr and 2.21 tons CO/year</p> <p>See A.2.a.</p>
OAC rule 3745-17-11(B)	See A.2.b.
OAC rule 3745-17-07(A)	See A.2.c.
OAC rule 3745-18-06	See A.2.d.
OAC rule 3745-21-08(B)	See A.2.e.

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2. Additional Terms and Conditions

- 2.a** Permit to Install 03-17375 for this air contaminant source takes into account the following voluntary restrictions as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).
- i. use of a baghouse for the pulverizing system that achieves a maximum outlet concentration of 0.005 grain of PM10/dscf and an associated 0% opacity, as a six-minute average,
 - ii. use of a fabric filter for the storage silo that achieves a maximum outlet concentration of 0.03 grain of PM10/dscf and an associated 0% opacity, as a six-minute average,
 - iii. conducting operations in a building such that there are no fugitive emissions associated with this operation, and
 - vi. the use of natural gas in the combustion chamber.

The potential to emit (PTE) for this emissions unit is 0.91 tons of PM10 per year and was determined by adding the potential emissions from the pulverizing system, and the potential emissions from the storage silo.

The PTE for the pulverizing system operations was determined by multiplying the following; a maximum outlet concentration of 0.005 grain PM10/dscf, a maximum volumetric air flow rate of 3,600 acfm, and a maximum operating schedule of 8760 hrs/yr, applying the appropriate conversion factors of 7000 grains/lb, 1 dscf/1acfm, 60 minutes/hr and dividing by 2000lbs/ton resulting in 0.68 tons PM10/yr.

The PTE for silo storage operations was determined by multiplying the following; a maximum outlet concentration of 0.03 grain PM10/dscf, a maximum annual silo air displacement of 2,930,000 acf/yr (this value is associated with a maximum coal storage amount of 54,844 tons/yr, as established in Emissions unit P001), applying the appropriate conversion factors of 7000 grains/lb, 1 dscf/1acfm, and dividing by 2000lbs/ton resulting in 0.01 ton PM10/yr.

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All emissions of particulate matter from this emissions unit is PM10.

The PTE for NOx and CO are based on the physical capacity of the unit and the use of natural gas.

The PTE for NOx was established by multiplying the AP-42 emission factor of 100 lbs NOx/mmcf (Section 1.4 (7/98) by the emission units' maximum heat input capacity of 6.0 mmBtu/hr then dividing by the heating value of natural gas of 1000 mmscf/mmBtu and a maximum operating schedule of 8760 hrs/yr, and dividing by 2000lbs/ton resulting in 2.63 tons NOx/yr.

The PTE for CO was established by multiplying the AP-42 emission factor of 84 lbs NOx/mmcf (Section 1.4 (7/98) by the emission units' maximum heat input capacity of 6.0 mmBtu/hr then dividing by the heating value of natural gas of 1000 mmscf/mmBtu and a maximum operating schedule of 8760 hrs/yr, and dividing by 2000lbs/ton resulting in 2.21 tons CO/yr.

- 2.b** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(C). This determination is based on all emissions of particulate matter being PM10 and the established PM10 limitation being more restrictive than particulate emissions limitation established by OAC rule 3745-17-11(B). Particulate emissions (PE) measured using Method 5 of 40 CFR Part 60, Appendix A would be equivalent to the filterable particulates measured using Method 201/201A of 40 CFR, Part 51, Appendix M. A PM10 limitation is more stringent due to the inclusion of condensable particulate matter measured by Method 202 of 40 CFR, Part 51, Appendix M.
- 2.c** The opacity restriction specified by this rule is less stringent than the opacity restriction established pursuant to OAC rule 3745-31-05(C).
- 2.d** This emissions unit is exempt from the requirements of OAC rule 3745-18-06 in accordance with OAC rule 3745-18-06(A).
- 2.e** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph

Emissions Unit ID: **P002**

(B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

B. Operational Restrictions

1. The permittee shall operate the baghouse at all times when this emissions units is in operation.
2. The permittee shall burn only natural gas in this emissions unit.

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C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse stack and silo vent serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log, as well as the date and time the daily check was performed. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive emissions shall be noted in an operations log, as well as the date and time the daily check was performed. If visible fugitive emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
3. The permittee shall maintain records documenting any time periods when the emissions unit was in operation and the baghouse was not operating.
4. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

D. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the baghouse stack and silo vent serving this emissions unit (b) identify all days during which any visible fugitive particulate emissions were observed from the egress points serving this emissions unit (c) describe any corrective actions taken to eliminate the visible particulate emissions from the baghouse stack and (d) describe any corrective actions taken to eliminate the

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visible fugitive particulate emissions from the egress points serving this emissions unit. These reports shall be submitted to the Ohio EPA, NWDO by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports that identify any time periods when the emissions unit was in operation and the baghouse was not operating. Each report shall be submitted within 30 days after the deviation occurs.
3. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in the emissions unit. These reports shall be submitted to Ohio EPA, Northwest District Office (NWDO) within 30 days after the deviation occurs.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation - Pulverizing system:
0.005 grain of PM10/dscf, and 0.68 ton PM10/year

Applicable Compliance Method:

The 0.005 grain of PM10/dscf emission limitation was established in accordance with manufacturer's specifications for the maximum outlet grain loading concentration for this baghouse.

If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A, and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The annual emission limitation represents the PTE for this portion of the emissions unit. The PTE was determined by multiplying the following; a maximum outlet concentration of 0.005 grain PM10/dscf, a maximum volumetric air flow rate of 3,600 acfm, and a maximum operating schedule of 8760 hrs/yr, applying the appropriate conversion factors of 7000 grains/lb, 1 dscf/1acfm, 60 minutes/hr and dividing by 2000lbs/ton. Therefore, provided compliance with the 0.005 gr/dscf is maintained, compliance with the annual PM10 limitation shall be assumed.

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- b. Emission Limitation - Storage Silo:
0.03 grain of PM10/dscf, and 0.01 ton PM10/year

The 0.03 grain of PM10/dscf emission limitation was established in accordance with manufacturer's specifications for the maximum outlet grain loading concentration for this fabric filter.

If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A, and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The annual emission limitation represents the PTE for this portion of the emissions unit. The PTE was determined by multiplying the following; a maximum outlet concentration of 0.03 grain PM10/dscf, a maximum annual silo air displacement of 2,720,000 acf/yr (this value is associated with a maximum coal storage amount of 54,844 tons/yr, as established in Emissions unit P001), applying the appropriate conversion factors of 7000 grains/lb, 1 dscf/1acfm, and dividing by 2000lbs/ton. Therefore, provided compliance is shown with the maximum coal throughput limitation, compliance with the annual PM10 limitation shall be assumed.

- c. Emissions Limitations - Combustion Chamber:
0.60 lb of NOx/hour and 2.63 tons NOx/year

Applicable Compliance Method:

The hourly emissions limitation was established by multiplying the AP-42 emission factor of 100 lbs NOx/mmcf (Section 1.4 (7/98) by the emission units' maximum heat input capacity of 6.0 mmBtu/hr then dividing by the heating value of natural gas of 1000 mmscf/mmBtu.

If required, the permittee shall demonstrate compliance by testing in accordance with the Methods 1 through 4 and 7 of 40 CFR, Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.

The annual emission limitation represents the PTE of the emissions unit. The annual emission limitation was developed by multiplying the hourly allowable emission limitation by the maximum operating schedule of 8760 hours/year, and applying the conversion factor of 2000 lb/ton. Therefore, if compliance is shown

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with the hourly limitation, compliance with the annual limitation shall be assumed.

- d. Emissions Limitations - Combustion Chamber:
0.50 lb of CO/hour and 2.21 tons CO/year

Applicable Compliance Method:

The hourly emissions limitation was established by multiplying the AP-42 emission factor of 84 lbs CO/mmcf (Section 1.4 (7/98) by the emission units' maximum heat input capacity of 6.0 mmBtu/hr then dividing by the heating value of natural gas of 1000 mmscf/mmBtu.

If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1 through 4 and 10 of 40 CFR, Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.

The annual emission limitation represents the PTE of the emissions unit. The annual emission limitation was developed by multiplying the hourly allowable emission limitation by the maximum operating schedule of 8760 hours/year, and applying the conversion factor of 2000 lb/ton. Therefore, if compliance is shown with the hourly limitation, compliance with the annual limitation shall be assumed.

- e. Emission Limitation:
Visible particulate emissions shall not exceed 0% opacity as a 6-minute average

Applicable Compliance Method:

If required compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources."

F. Miscellaneous Requirements

None

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment - (P003) - Briquetting System

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(C)	<p>0.005 grain of particulate matter 10 microns or less in size (PM10) per dry standard cubic foot (dscf) and 0.94 tons per year</p> <p>Visible particulate emissions shall not exceed 0% opacity, as a six-minute average from the baghouse serving the receiving and transfer operations</p> <p>There shall be no visible fugitive particulate emissions from the building housing the briquetting system</p> <p>See A.2.a.</p>
OAC rule 3745-17-11(B)	See A.2.b.
OAC rule 3745-17-07(A)	See A.2.c.

2. Additional Terms and Conditions

- 2.a Permit to Install 03-17375 for this air contaminant source takes into account the following voluntary restrictions as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).
 - i. use of a baghouse that achieves a maximum outlet concentration of 0.005 grain of PM10/dscf, and an associated 0% opacity, as a six-minute average, and
 - ii. conducting operations in a building such that there are no fugitive emissions associated with this operation.

The potential to emit (PTE) for this emissions unit was determined by multiplying

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the following; a maximum outlet concentration of 0.005 grain PM10/dscf, a maximum volumetric air flow rate of 5,000 acfm, and a maximum operating schedule of 8760 hrs/yr, applying the appropriate conversion factors of 7000 grains/lb, 1 dscf/1acfm, 60 minutes/hr and dividing by 2000lbs/ton resulting in 0.94 tons PM10/yr.

- 2.b** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(C). This determination is based on all emissions of particulate matter being PM10 and the established PM10 limitation being more restrictive than particulate emissions limitation established by OAC rule 3745-17-11(B). Particulate emissions (PE) measured using Method 5 of 40 CFR Part 60, Appendix A would be equivalent to the filterable particulates measured using Method 201/201A of 40 CFR, Part 51, Appendix M. A PM10 limitation is more stringent due to the inclusion of condensable particulate matter measured by Method 202 of 40 CFR, Part 51, Appendix M.
- 2.c** The opacity restriction specified by this rule is less stringent than the opacity restriction established pursuant to OAC rule 3745-31-05(C).

B. Operational Restrictions

1. The permittee shall operate the baghouse at all times when this emissions unit is in operation.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log, as well as the date and time the daily check was performed. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from

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the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive emissions shall be noted in an operations log, as well as the date and time the daily check was performed. If visible fugitive emissions are observed, the permittee shall also note the following in the operations log:

- a. the color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
3. The permittee shall maintain records documenting any time periods when the emissions unit was in operation and the baghouse was not operating.

D. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the baghouse stack serving this emissions unit (b) identify all days during which any visible fugitive particulate emissions were observed from the egress points serving this emissions unit (c) describe any corrective actions taken to eliminate the visible particulate emissions from the baghouse stack and (d) describe any corrective actions taken to eliminate the visible fugitive particulate emissions from the egress points serving this emissions unit. These reports shall be submitted to the Ohio EPA, NWDO by January 31 and July 31 of each year and shall cover the previous 6-month period.
2. The permittee shall submit deviation (excursion) reports that identify any time periods when the emissions unit was in operation and the baghouse was not operating. Each report shall be submitted within 30 days after the deviation occurs.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.I.1. of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
0.005 grain of PM10/dscf, and 0.94 ton PM10/year

The 0.005 grain of PM10/dscf emission limitation was established in accordance with the manufacturer's specifications for the maximum outlet grain loading concentration for this baghouse.

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If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A, and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The annual emission limitation represents the potential to emit (PTE) for this emissions unit. The PTE for this emissions unit was determined by multiplying the following; a maximum outlet concentration of 0.005 grain PM10/dscf, a maximum volumetric air flow rate of 5,000 acfm, and a maximum operating schedule of 8760 hrs/yr, applying the appropriate conversion factors of 7000 grains/lb, 1 dscf/1acfm, 60 minutes/hr and dividing by 2000lbs/ton. Therefore, as long as compliance with the 0.005 gr/dscf is maintained, compliance with the annual PM10 limitation shall be assumed.

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b. Emission Limitation:

Visible particulate emissions shall not exceed 0% opacity as a 6-minute average

Applicable Compliance Method:

If required compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources."

F. Miscellaneous Requirements

None

Emissions Unit ID: **P004****PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)****A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment -(P004) - Electric Arc Furnace (EAF) Dust Receiving, Transfer, and Storage (Rail)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(A)(3)	<p><u>Receiving and Transfer Operations</u> 0.005 grain of particulate matter 10 microns or less in size (PM10) per dry standard cubic foot (dscf) and 11.06 tons PM10/year, for emissions units P004 and P005 combined</p> <p>Visible particulate emissions shall not exceed 0% opacity, as a six-minute average from the baghouse serving the receiving and transfer operations</p> <p>There shall be no visible fugitive particulate emissions from the building housing the receiving and transfer operations</p> <p><u>Storage Silo</u> 0.03 grain of PM10/dscf and 0.02 ton PM10/year</p> <p>Visible particulate emissions shall not exceed 0% opacity, as a six-minute average from the fabric filter serving the storage silo</p> <p>See A.2.a.</p>
OAC rule 3745-17-11(B)	See A.2.b.
OAC rule 3745-17-07(A)	See A.2.c.
OAC rule 3745-114-01 ORC 3704.03(F)	See C.5.

2. Additional Terms and Conditions

- 2.a Best Available Technology (BAT) requirements established under OAC rule 3745-31-05(A)(3) for this emissions unit have been determined to be the

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following:

- i. use of a baghouse for the receiving and transfer operations that achieves a maximum outlet concentration of 0.005 grain of PM10/dscf, and an associated 0% opacity, as a six-minute average,
- ii. use of a fabric filter for the storage silo that achieves a maximum outlet concentration of 0.03 grain of PM10/dscf, and an associated 0% opacity, as a six-minute average, and
- iii. conducting operations in a building such that there are no fugitive emissions associated with this operation.

2.b The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A). This determination is based on all emissions of particulate matter being PM10 and the established PM10 limitation being more restrictive than particulate emissions limitation established by OAC rule 3745-17-11(B). Particulate emissions (PE) measured using Method 5 of 40 CFR Part 60, Appendix A would be equivalent to the filterable particulates measured using Method 201/201A of 40 CFR, Part 51, Appendix M. A PM10 limitation is more stringent due to the inclusion of condensable particulate matter measured by Method 202 of 40 CFR, Part 51, Appendix M.

2.c The opacity restriction specified by this rule is less stringent than the opacity restriction established pursuant to OAC rule 3745-31-05(A).

B. Operational Restrictions

1. The permittee shall operate the baghouse at all times when this emissions unit is in operation.
2. The permittee shall not exceed an annual material throughput rate of 257,670 tons of EAF dust received for this emissions unit.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the

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baghouse stack and silo vent serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log, as well as the date and time the daily check was performed. If visible emissions are observed, the permittee shall also note the following in the operations log:

- a. the color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive emissions shall be noted in an operations log, as well as the date and time the daily check was performed. If visible fugitive emissions are observed, the permittee shall also note the following in the operations log:
- a. the color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
3. The permittee shall maintain records documenting any time periods when the emissions unit was in operation and the baghouse was not operating.
4. The permittee shall maintain monthly records of the amount (tons of EAF dust per month and total tons of EAF dust, to date for the calendar year) of material throughput for this emissions unit.
5. The permit to install for these emissions units P004, P005, P006, and P007 were evaluated based on the actual materials and the design parameters of the emissions units' exhaust system, as specified by the permittee in the permit application. The Ohio EPA's "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN 3.0, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

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- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
 - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
 - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC).
- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic contaminant: ManganeseTLV (mg/m³): 0.2

Maximum Hourly Emission Rate (lbs/hr): 0.25 (permit total)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 1.02MAGLC (ug/m³): 4.76**Toxic contaminant:** Zinc OxideTLV (mg/m³): 10

Maximum Hourly Emission Rate (lbs/hr): 1.91 (permit total)

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Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 12.92
MAGLC (ug/m³): 238

Toxic contaminant: HCl

TLV (mg/m³): 2.99

Maximum Hourly Emission Rate (lbs/hr): 1.21 (permit total)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 3.13

MAGLC (ug/m³): 52

The permittee, has demonstrated that emissions of Manganese, Zinc Oxide, HCl from emissions units P004, P005, P006, and P007 are calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic contaminant in accordance with ORC 3704.03(F).

6. Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
 - a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the ORC 3704.03(F), the statute, has been documented. If the change(s) meet(s) the definition of a "modification" or if a new toxic is emitted, or the modeled toxic(s) is/are expected to exceed the previous modeled

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level(s), then the permittee shall apply for and obtain a final permit-to-install prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit-to-install application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and may require the permittee to submit a permit-to-install application for the increased emissions.

7. The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute":
 - a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with ORC 3704.03(F);
 - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. the documentation of the initial evaluation of compliance with ORC 3704.03(F) and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
8. The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

D. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the baghouse stack and silo vent serving this emissions unit (b) identify all days during which any visible fugitive

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particulate emissions were observed from the egress points serving this emissions unit (c) describe any corrective actions taken to eliminate the visible particulate emissions from the baghouse stack and (d) describe any corrective actions taken to eliminate the visible fugitive particulate emissions from the egress points serving this emissions unit. These reports shall be submitted to the Ohio EPA, NWDO by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports that identify any time periods when the emissions unit was in operation and the baghouse was not operating. Each report shall be submitted within 30 days after the deviation occurs.
3. The permittee shall submit annual records that summarize the total annual material throughput for this emissions unit, in tons of EAF dust. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.
4. The permittee shall submit annual reports to the appropriate Ohio EPA District Office or local air agency, documenting any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions unit(s) or the exhaust stack have been made, then the report shall include a statement to this effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

E. Testing Requirements

1. The permittee shall conduct emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit.
 - b. The emission testing shall be conducted to demonstrate compliance with the baghouse grain loading of 0.005 grain of PM10/dscf.
 - c. The following test methods shall be employed to demonstrate compliance with the above emissions limitations:

Methods 1-4 of 40 CFR Part 60, Appendix A, and 201/201A and 202 of 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, NWDO.

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- d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Ohio EPA, NWDO.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, NWDO's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, NWDO shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report of the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, NWDO within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, NWDO.

- 2. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitation - Receiving and Transfer Operations:
0.005 grain of PM10/dscf, and 11.06 tons PM10/year for emissions units P004 and P005 combined

Applicable Compliance Method:

Compliance with the 0.005 grain of PM10/dscf emission limitation shall be demonstrated by testing in accordance with the requirements specified in Condition E.1.

The annual emission limitation represents the potential to emit (PTE) for this portion of the emissions unit. The PTE for this emissions unit was determined by multiplying the following; a maximum outlet concentration of 0.005 grain PM10/dscf, a maximum

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volumetric air flow rate of 58,900 acfm, and a maximum operating schedule of 8760 hrs/yr, applying the appropriate conversion factors of 7000 grains/lb, 1 dscf/1acfm, 60 minutes/hr and dividing by 2000lbs/ton. Therefore, as long as compliance with the 0.005 gr/dscf is maintained, compliance with the annual PM10 limitation shall be assumed.

- b. Emission Limitation - EAF Dust Silos:
0.03 grain of PM10/dscf, and 0.02 ton PM10/year

The 0.03 grain of PM10/dscf emission limitation was established in accordance with manufacturer's specifications for the maximum outlet grain loading concentration for this fabric filter.

If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A, and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The annual emission limitation represents the PTE for this portion of the emissions unit. The PTE was determined by multiplying the following; a maximum outlet concentration of 0.03 grain PM10/dscf, a maximum annual silo air displacement of 10,000,000 cf/year (a calculated value associated with the storage of 257,670 tons per year of EAF dust), applying the appropriate conversion factors of 7000 grains/lb, 1 dscf/1acfm, and dividing by 2000lbs/ton. Therefore, provided compliance is shown with the maximum coal throughput limitation, compliance with the annual PM10 limitation shall be assumed.

- c. Emission Limitation:
Visible particulate emissions shall not exceed 0% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources."

F. Miscellaneous Requirements

1. The permittee shall conduct analysis on the EAF baghouse dust received by this emissions unit. At a minimum, samples shall be analyzed for the manganese, lead,

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cadmium, chromium, zinc, and mercury content. The results shall be reported in weight percent. This analysis shall be conducted by the permittee or the EAF dust generator in accordance with U.S. EPA test methods and procedures. Within 180 days after startup of this emissions unit, the permittee shall proposed a sampling frequency for performing the analysis. After 12 months of analysis, the permittee can propose a lower sampling frequency if it can demonstrate that the dust received from each generator is consistent in nature with regards to metal content.

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PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. Applicable Emissions Limitations and/or Control Requirements**

- The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment -(P005) - Electric Arc Furnace (EAF) Dust Receiving, Transfer, and Storage (Truck)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(A)	<p><u>Receiving and Transfer Operations</u> 0.005 grain of particulate matter 10 microns or less in size (PM10) per dry standard cubic foot (dscf) and 11.06 tons PM10/year, for emissions units P004 and P005 combined</p> <p>Visible particulate emissions shall not exceed 0% opacity, as a six-minute average from the baghouse serving the receiving and transfer operations</p> <p>There shall be no visible fugitive particulate emissions from the building housing the receiving and transfer operations</p> <p><u>Storage Silo</u> 0.03 grain of PM10/dscf and 0.02 ton PM10/year</p> <p>Visible particulate emissions shall not exceed 0% opacity, as a six-minute average from the fabric filter serving the storage silo</p> <p>See A.2.a.</p>
OAC rule 3745-17-11(B)	See A.2.b.
OAC rule 3745-17-07(A)	See A.2.c
OAC rule 3745-114-01 ORC 3704.03(F)	See C.5.

2. Additional Terms and Conditions

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- 2.a** Best Available Technology (BAT) requirements established under OAC rule 3745-31-05(A)(3) for this emissions unit have been determined to be the following:
- i. use of a baghouse for the receiving and transfer operations that achieves a maximum outlet concentration of 0.005 grain of PM10/dscf, and an associated 0% opacity, as a six-minute average,
 - ii. use of a fabric filter for the storage silo that achieves a maximum outlet concentration of 0.03 grain of PM10/dscf, and an associated 0% opacity, as a six-minute average, and
 - iii. conducting operations in a building such that there are no fugitive emissions associated with this operation.
- 2.b** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A). This determination is based on all emissions of particulate matter being PM10 and the established PM10 limitation being more restrictive than particulate emissions limitation established by OAC rule 3745-17-11(B). Particulate emissions (PE) measured using Method 5 of 40 CFR Part 60, Appendix A would be equivalent to the filterable particulates measured using Method 201/201A of 40 CFR, Part 51, Appendix M. A PM10 limitation is more stringent due to the inclusion of condensable particulate matter measured by Method 202 of 40 CFR, Part 51, Appendix M.
- 2.c** The opacity restriction specified by this rule is less stringent than the opacity restriction established pursuant to OAC rule 3745-31-05(A).

B. Operational Restrictions

1. The permittee shall operate the baghouse at all times when this emissions unit is in operation.
2. The permittee shall not exceed an annual material throughput rate of 257,670 tons of EAF dust received for this emissions unit.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and

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when the weather conditions allow, for any visible particulate emissions from the baghouse stack and silo vent serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log, as well as the date and time the daily check was performed. If visible emissions are observed, the permittee shall also note the following in the operations log:

- a. the color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive emissions shall be noted in an operations log, as well as the date and time the daily check was performed. If visible fugitive emissions are observed, the permittee shall also note the following in the operations log:
- a. the color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
3. The permittee shall maintain records documenting any time periods when the emissions unit was in operation and the baghouse was not operating.
4. The permittee shall maintain monthly records of the amount (tons of EAF dust per month and total tons of EAF dust, to date for the calendar year) of material throughput for this emissions unit.
5. The permit to install for these emissions units P004, P005, P006, and P007 were evaluated based on the actual materials and the design parameters of the emissions units' exhaust system, as specified by the permittee in the permit application. The Ohio EPA's "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN 3.0, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document

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entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
 - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
 - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC).
- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic contaminant: Manganese

TLV (mg/m³): 0.2

Maximum Hourly Emission Rate (lbs/hr): 0.25 (permit total)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 1.02

MAGLC (ug/m³): 4.76

Toxic contaminant: Zinc Oxide

Emissions Unit ID: **P005**TLV (mg/m³): 10

Maximum Hourly Emission Rate (lbs/hr): 1.91 (permit total)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 12.92MAGLC (ug/m³): 238**Toxic contaminant:** HClTLV (mg/m³): 2.99

Maximum Hourly Emission Rate (lbs/hr): 1.21 (permit total)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 3.13MAGLC (ug/m³): 52

The permittee, has demonstrated that emissions of Manganese, Zinc Oxide, HCl from emissions units P004, P005, P006, and P007 are calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic contaminant in accordance with ORC 3704.03(F).

6. Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
 - a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the ORC 3704.03(F), the statute, has been documented. If the change(s) meet(s) the definition of a "modification" or if a new toxic

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is emitted, or the modeled toxic(s) is/are expected to exceed the previous modeled level(s), then the permittee shall apply for and obtain a final permit-to-install prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit-to-install application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and may require the permittee to submit a permit-to-install application for the increased emissions.

7. The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute":
 - a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with ORC 3704.03(F);
 - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. the documentation of the initial evaluation of compliance with ORC 3704.03(F) and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
8. The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

D. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during

Emissions Unit ID: **P005**

which any visible particulate emissions were observed from the baghouse stack and silo vent serving this emissions unit (b) identify all days during which any visible fugitive particulate emissions were observed from the egress points serving this emissions unit (c) describe any corrective actions taken to eliminate the visible particulate emissions from the baghouse stack and (d) describe any corrective actions taken to eliminate the visible fugitive particulate emissions from the egress points serving this emissions unit. These reports shall be submitted to the Ohio EPA, NWDO by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports that identify any time periods when the emissions unit was in operation and the baghouse was not operating. Each report shall be submitted within 30 days after the deviation occurs.
3. The permittee shall submit annual records that summarize the total annual material throughput for this emissions unit, in tons of EAF dust. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.
4. The permittee shall submit annual reports to the appropriate Ohio EPA District Office or local air agency, documenting any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions unit(s) or the exhaust stack have been made, then the report shall include a statement to this effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

E. Testing Requirements

1. The permittee shall conduct emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit.
 - b. The emission testing shall be conducted to demonstrate compliance with the baghouse grain loading of 0.005 grain of PM10/dscf.
 - c. The following test methods shall be employed to demonstrate compliance with the above emissions limitations:

Methods 1-4 of 40 CFR Part 60, Appendix A, and 201/201A and 202 of 40 CFR

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Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, NWDO.

- d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Ohio EPA, NWDO.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, NWDO's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, NWDO shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report of the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, NWDO within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, NWDO.

2. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitation - Receiving and Transfer Operations:
0.005 grain of PM10/dscf, and 11.06 tons PM10/year for emissions units P004 and P005 combined

Applicable Compliance Method:

Compliance with the 0.005 grain of PM10/dscf emission limitation shall be demonstrated by testing in accordance with the requirements specified in Condition E.1.

The annual emission limitation represents the potential to emit (PTE) for this portion of the emissions unit. The PTE for this emissions

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unit was determined by multiplying the following; a maximum outlet concentration of 0.005 grain PM10/dscf, a maximum volumetric air flow rate of 58,900 acfm, and a maximum operating schedule of 8760 hrs/yr, applying the appropriate conversion factors of 7000 grains/lb, 1 dscf/1acfm, 60 minutes/hr and dividing by 2000lbs/ton. Therefore, as long as compliance with the 0.005 gr/dscf is maintained, compliance with the annual PM10 limitation shall be assumed.

- b. Emission Limitation - EAF Dust Silos:
0.03 grain of PM10/dscf, and 0.02 ton PM10/year

The 0.03 grain of PM10/dscf emission limitation was established in accordance with manufacturer's specifications for the maximum outlet grain loading concentration for this fabric filter.

If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A, and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The annual emission limitation represents the PTE for this portion of the emissions unit. The PTE was determined by multiplying the following; a maximum outlet concentration of 0.03 grain PM10/dscf, a maximum annual silo air displacement of 10,320,000 cf/year (a calculated value associated with the storage of 257,670 tons per year of EAF dust), applying the appropriate conversion factors of 7000 grains/lb, 1 dscf/1acfm, and dividing by 2000lbs/ton. Therefore, provided compliance is shown with the maximum coal throughput limitation, compliance with the annual PM10 limitation shall be assumed.

- c. Emission Limitation:
Visible particulate emissions shall not exceed 0% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources."

F. Miscellaneous Requirements

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1. The permittee shall conduct analysis on the EAF baghouse dust received by this emissions unit. At a minimum, samples shall be analyzed for the manganese, lead, cadmium, chromium, zinc, and mercury content. The results shall be reported in weight percent. This analysis shall be conducted by the permittee or the EAF dust generator in accordance with U.S. EPA test methods and procedures. Within 180 days after startup of this emissions unit, the permittee shall proposed a sampling frequency for performing the analysis. After 12 months of analysis, the permittee can propose a lower sampling frequency if it can demonstrate that the dust received from each generator is consistent in nature with regards to metal content.

Emissions Unit ID: P006

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. Applicable Emissions Limitations and/or Control Requirements**

- The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment - (P006) - Rotary Hearth Furnace

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(A)(3)	<p><u>From the Primary Baghouse</u> 11.71 lbs of nitrogen oxides (NO_x)/hour; 51.28 tons of NO_x/year</p> <p>7.10 lb of carbon monoxide (CO)/hour; 31.10 tons of CO/year/</p> <p>4.27 lb of sulfur dioxide (SO₂)/hour; 18.69 ton of SO₂/year</p> <p>0.005 grain of particulate matter 10 microns or less in size (PM₁₀)/dscf, and 24.97 tons PM₁₀/year</p> <p>Visible particulate emissions shall not exceed 0% opacity, as a six-minute average from the primary baghouse serving the rotary hearth furnace</p> <p>There shall be no visible fugitive particulate emissions from the building housing the rotary hearth furnace</p> <p><u>From the Secondary Baghouse</u> 0.005 grain of PM₁₀/dscf, and 1.03 tons PM₁₀/year</p> <p>Visible particulate emissions shall not exceed 0% opacity, as a six-minute average from the secondary baghouse serving the rotary hearth furnace</p> <p>See A.2.a.</p>

OAC rule 3745-31-05(C)	1.21 lb of Hydrogen Chloride (HCl)/hour; 5.32 ton of HCl/year See A.2.b.
OAC rule 3745-17-11(B)	See A.2.c.
OAC rule 3745-17-07(A)	See A.2.d.
OAC rule 3745-18-06	See A.2.e.
OAC rule 3745-114-01 ORC 3704.03(F)	See C.7.
OAC rule 3745-21-08(B)	See A.2.f.

2. Additional Terms and Conditions

2.a Best Available Technology (BAT) requirements established under OAC rule 3745-31-05(A)(3) for this emissions unit have been determined to be the following:

- i. the use of a baghouse for the primary control that achieves a maximum outlet concentration of 0.005 grain of PM10/dscf,
- ii. the use of a baghouse for secondary control that achieves a maximum outlet concentration of 0.005 grain of PM10/dscf,
- iii. conducting operations in a building such that there are no fugitive emissions associated with this operation,
- iv. the use of only low sulfur coal in the production of the cold bonded briquets (CBQ), as specified in emissions unit P001,
- v. the use of natural gas, and
- vi. the use of a passive post combustion chamber.

2.b Permit to Install 03-17375 for this air contaminant source takes into account the following voluntary restrictions as proposed by the permittee for the purpose of establishing legally and practically enforceable requirements representing the potential to emit for emissions of HCl

- i. the use of dry lime injection.

The potential to emit (PTE) for this emissions unit was determined by multiplying

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the following; maximum annual CBQ throughput of 322,812 tons, the manufacturer supplied emission factor of 0.1318 lb HCl/ton of CBQ, and the control efficiency of the dry lime injection (75%) and dividing by 2000lbs/ton resulting in 5.32 tons HCl/yr.

- 2.c** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). This determination is based on all emissions of particulate matter being PM10 and the established PM10 limitation being more restrictive than particulate emissions limitation established by OAC rule 3745-17-11(B). Particulate emissions (PE) measured using Method 5 of 40 CFR Part 60, Appendix A would be equivalent to the filterable particulates measured using Method 201/201A of 40 CFR, Part 51, Appendix M. A PM10 limitation is more stringent due to the inclusion of condensable particulate matter measured by Method 202 of 40 CFR, Part 51, Appendix M.
- 2.d** The opacity restriction specified by this rule is less stringent than the opacity restriction established pursuant to OAC rule 3745-31-05(A)(3).
- 2.e** This emissions unit is exempt from the requirements of OAC rule 3745-18-06 in accordance with OAC rule 3745-18-06(A).
- 2.f** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

B. Operational Restrictions

1. The maximum annual CBQ throughput for this emissions unit shall not exceed 322,812 tons.

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2. The permittee shall operate the baghouses and dry lime injection system at all times when this emissions units is in operation. The dry lime injection rate shall be maintained at the minimum value established during the performance test described in condition E.1.
3. The permittee shall burn only natural gas in this emissions unit.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log, as well as the date and time the daily check was performed. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive emissions shall be noted in an operations log, as well as the date and time the daily check was performed. If visible fugitive emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
3. The permittee shall maintain records documenting any time periods when the emissions unit was in operation and either of the baghouses or dry lime injection system was not operating.
4. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
5. The permittee shall maintain monthly records of the following information for this

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emissions unit:

- a. the quantity of CBQ processed, in tons;
- b. the emissions* of SO₂, CO, HCl, and NO_x,
- c. the annual, year-to date emissions of SO₂, CO, HCl, and NO_x, in tons.

* The permittee shall use the emission factors established from the testing requirements in condition E.1.

6. The permittee shall properly install, operate, and maintain equipment to continuously monitor the dry lime injection rate, during operation of this emissions unit. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the dry lime injection rate, on a once per shift basis.

Whenever the monitored value for the dry lime injection rate deviates from the value specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable value specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the pressure drop and/or water flow rate reading immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The dry lime injection rate shall be no less the value established during the most recent emission testing that demonstrated the emissions unit was in compliance.

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The dry lime injection rate are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the dry lime injection rate based upon information obtained during future emission tests that demonstrate compliance with the allowable emission rates for this emissions unit. In addition, approved revisions to the dry lime injection rate value will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into the operating permit for the facility by means of a permit modification.

7. The permit to install for these emissions units P004, P005, P006, and P007 were evaluated based on the actual materials and the design parameters of the emissions units' exhaust system, as specified by the permittee in the permit application. The Ohio EPA's "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN 3.0, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:
 - a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
 - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices";
or
 - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.

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- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC).
- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic contaminant: Manganese

TLV (mg/m³): 0.2

Maximum Hourly Emission Rate (lbs/hr): 0.25 (permit total)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 1.02

MAGLC (ug/m³): 4.76

Toxic contaminant: Zinc Oxide

TLV (mg/m³): 10

Maximum Hourly Emission Rate (lbs/hr): 1.91 (permit total)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 12.92

MAGLC (ug/m³): 238

Toxic contaminant: HCl

TLV (mg/m³): 2.99

Maximum Hourly Emission Rate (lbs/hr): 1.21 (permit total)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 3.13

MAGLC (ug/m³): 52

The permittee, has demonstrated that emissions of Manganese, Zinc Oxide, HCl from emissions units P004, P005, P006, and P007, are calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic contaminant in accordance with ORC 3704.03(F).

- 8. Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration", the permittee shall re-model

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the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:

- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
- c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the ORC 3704.03(F), the statute, has been documented. If the change(s) meet(s) the definition of a "modification" or if a new toxic is emitted, or the modeled toxic(s) is/are expected to exceed the previous modeled level(s), then the permittee shall apply for and obtain a final permit-to-install prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit-to-install application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and may require the permittee to submit a permit-to-install application for the increased emissions.

9. The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute":
 - a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with ORC 3704.03(F);

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- c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. the documentation of the initial evaluation of compliance with ORC 3704.03(F) and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
10. The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

D. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the baghouse stack serving this emissions unit (b) identify all days during which any visible fugitive particulate emissions were observed from the egress points serving this emissions unit (c) describe any corrective actions taken to eliminate the visible particulate emissions from the baghouse stack and (d) describe any corrective actions taken to eliminate the visible fugitive particulate emissions from the egress points serving this emissions unit. These reports shall be submitted to the Ohio EPA, NWDO by January 31 and July 31 of each year and shall cover the previous 6-month period.
2. The permittee shall submit deviation (excursion) reports that identify any time periods when the emissions unit was in operation and either of the baghouses or dry lime injection system was not operating. Each report shall be submitted within 30 days after the deviation occurs.
3. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment (dry lime injection system) during the operation of this emissions unit:
 - a. each period of time when the dry lime injection rate deviated from the acceptable value;

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- b. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the pressure drop and/or water flow rate into compliance with the acceptable range/value, was determined to be necessary and was not taken; and
- c. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

4. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in the emissions unit. These reports shall be submitted to Ohio EPA, Northwest District Office (NWDO) within 30 days after the deviation occurs.
5. The permittee shall submit annual records that summarize the total annual material throughput for this emissions unit, in tons of briquets. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.
6. The permittee shall submit annual reports to the appropriate Ohio EPA District Office or local air agency, documenting any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions unit(s) or the exhaust stack have been made, then the report shall include a statement to this effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

E. Testing Requirements

1. The permittee shall conduct emissions testing on the primary baghouse controlling this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions units will be operated, but not later than 180 days after initial startup of such emissions units.
 - b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emissions rate for CO, SO₂, NO_x, HCl, and the allowable outlet

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grain loading concentration for PM10.

- c. The following test methods shall be employed to demonstrate compliance with the above emissions limitations:
 - i. for PM10, Methods 1-4 of 40 CFR Part 60, Appendix A, and Methods 201/201a and 202 of 40 CFR Part 51, Appendix M;
 - ii. for NOx, Methods 1-4 and 7 of 40 CFR Part 60, Appendix A;
 - iii. for CO, Methods 1-4 and 10 of 40 CFR Part 60, Appendix A;
 - iv. for SO2 Methods 1-4 and 6c of 40 CFR Part 60, Appendix A;
 - v. for HCl Methods 1-4 and 26 or 26a of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, NWDO.

- d. The test(s) shall be conducted while this emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Ohio EPA, NWDO.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, NWDO's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, NWDO shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report of the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, NWDO within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, NWDO.

- f. As part of the stack test report, the permittee shall calculate an emission factor

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for CO, NO_x, SO₂, and HCl in units of lb/ton of CBQ processed.

- g. During the performance test, the permittee shall monitor and record the lime injection rate and include these results in the stack test report.
 - h. In addition to the above requirements, the permittee shall be required to conduct testing for additional Hazardous Air Pollutants from this emissions unit for the purpose of quantifying the total HAPs emissions at this facility. At a minimum, testing shall be conducted for manganese, lead, cadmium, chromium, HF, and mercury contents. The permittee shall provide a detailed "HAPs testing plan" as part of the intent to test submittal.
2. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:
- a. Emission Limitation:
 - 11.71 lbs of NO_x/hour;
 - 7.10 lbs of CO/hour;
 - 4.27 lb of SO₂/hour;
 - 1.21 lb of HCl/hour;

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Applicable Compliance Method

Compliance with the hourly emission limitations shall be demonstrated through performance testing as described in Condition E.1.

- b. Emissions Limitation
51.28 tons of NO_x/year
31.10 tons of CO/year
18.69 ton of SO₂/year
5.32 ton of HCl/year

Applicable Compliance Method

Compliance with the annual emission limitation shall be demonstrated through the record keeping as described in Condition C.5.

- c. Emissions Limitation for the Primary Baghouse:
0.005 grain/dscf of PM₁₀ and 24.97 tons PM₁₀/year

Applicable Compliance Method

Compliance with the grain/dscf emission limitation shall be demonstrated by testing in accordance with the requirements specified in Condition E.1.

The annual emission limitation represents the potential to emit for this portion of the emissions unit. The potential to emit was established by multiplying the maximum outlet concentration of 0.005 grain PM₁₀/dscf by a maximum volumetric air flow of 133,000 acfm, applying the appropriate conversion factors of 7000 grains/lb, 1 dscf/1acfm, and 60 minutes/hr and multiplying by 8760 hrs/year and dividing by 2000 lbs/ton. Therefore, as long as compliance with the 0.005 gr/dscf is maintained, compliance with the annual PM₁₀ limitation shall be assumed.

- d. Emission Limitation for the Secondary Baghouse:
0.005 grain of PM₁₀/dscf, and 1.03 tons PM₁₀/year

Applicable Compliance Method:

The 0.005 grain of PM₁₀/dscf emission limitation was established in accordance with manufacturer's specifications for the maximum outlet grain loading concentration for this baghouse.

If required, the permittee shall demonstrate compliance with this emission limitation by testing in accordance with Methods 1-4 of 40 CFR Part 60,

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Appendix A, and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The annual emission limitation represents the potential to emit for this portion of the emissions unit. The potential to emit was established by multiplying the maximum outlet concentration of 0.005 grain PM10/dscf by a maximum volumetric air flow of 5,500 acfm, applying the appropriate conversion factors of 7000 grains/lb, 1 dscf/1acfm, and 60 minutes/hr and multiplying by 8760 hrs/year and dividing by 2000 lbs/ton. Therefore, as long as compliance with the 0.005 gr/dscf is maintained, compliance with the annual PM10 limitation shall be assumed.

e. Emission Limitation from the Primary Baghouse:

Visible particulate emissions shall not exceed 10% opacity as a 6-minute average

Applicable Compliance Method:

Compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources."

f. Emission Limitation from the Secondary Baghouse:

Visible particulate emissions shall not exceed 0% opacity as a 6-minute average

Applicable Compliance Method:

Compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources."

F. Miscellaneous Requirements

None

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PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment - (P007) - Electric Iron Furnace

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
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OAC rule 3745-31-05(A)(3)	<p><u>From the Primary Baghouse</u> 1.87 lbs of nitrogen oxides (NO_x)/hour; 8.19 tons of NO_x/year</p> <p>2.20 lb of carbon monoxide (CO)/hour; 9.65 tons of CO/year</p> <p>0.77 lb of sulfur dioxide (SO₂)/hour; 3.35 tons of SO₂/year</p> <p>1.45 lb of Organic Compounds (OC)/hour; 6.33 tons of OC/year</p> <p>0.005 grain of particulate matter 10 microns or less in size (PM₁₀)/dscf, and 1.10 tons PM₁₀/year</p> <p>Visible particulate emissions shall not exceed 0% opacity, as a six-minute average from the primary baghouse serving the electric iron furnace</p> <p>There shall be no visible fugitive particulate emissions from the building housing the electric iron furnace</p> <p><u>From the Secondary Baghouse</u> 0.005 grain of PM₁₀/dscf, and 27.78 tons PM₁₀/year</p> <p>Visible particulate emissions shall not exceed 0% opacity, as a six-minute average from the secondary baghouse serving the electric iron furnace</p> <p>See A.2.a.</p>
OAC rule 3745-17-11(B)	See A.2.b.
OAC rule 3745-17-07(A)	See A.2.c.
OAC rule 3745-114-01 ORC 3704.03(F)	See C.6.

2. Additional Terms and Conditions

- 2.a** Best Available Technology (BAT) requirements established under OAC rule 3745-31-05(A)(3) for this emissions unit have been determined to be the

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following:

- i. the use of a baghouse for the primary control that achieves a maximum outlet concentration of 0.005 grain of PM10/dscf,
- ii. the use of a baghouse for secondary control that achieves a maximum outlet concentration of 0.005 grain of PM10/dscf,
- iii. conducting operations in a building such that there are no fugitive emissions associated with this operation, and
- iv. the use of an active post combustion chamber.

2.b The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). This determination is based on all emissions of particulate matter being PM10 and the established PM10 limitation being more restrictive than particulate emissions limitation established by OAC rule 3745-17-11(B). Particulate emissions (PE) measured using Method 5 of 40 CFR Part 60, Appendix A would be equivalent to the filterable particulates measured using Method 201/201A of 40 CFR, Part 51, Appendix M. A PM10 limitation is more stringent due to the inclusion of condensable particulate matter measured by Method 202 of 40 CFR, Part 51, Appendix M.

2.c The opacity restriction specified by this rule is less stringent than the opacity restriction established pursuant to OAC rule 3745-31-05(A)(3).

B. Operational Restrictions

1. The maximum annual production for this emissions unit shall not exceed 74,468 tons of pig iron per year.
2. The permittee shall operate both baghouses at all times when this emissions unit is in operation.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log, as well as the date and time the daily check was performed. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive emissions shall be noted in an operations log, as well as the date and time the daily check was performed. If visible fugitive emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
3. The permittee shall maintain records documenting any time periods when the emissions unit was in operation and either of the baghouses was not operating.
4. The permittee shall maintain monthly records of the following information for this emissions unit:
 - a. the quantity of iron processed, in tons;
 - b. the emissions* of SO₂, CO, OC, and NO_x, in tons; and,
 - c. the annual, year-to date emissions of SO₂, CO, OC, and NO_x, in tons;

* The permittee shall use the emission factors established from the testing requirements specified in condition E.1.
5. The permittee shall properly install, operate, and maintain equipment to continuously

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monitor and record the temperature within the post combustion chamber during operation of this emissions unit. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the temperature within the post combustion chamber on a continuous basis.

Whenever the monitored value for the temperature deviates from the value specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable value specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the combustion temperature within the post combustion chamber immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The average temperature within the post combustion chamber, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

This value is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency.

6. The permit to install for these emissions units P004, P005, P006, and P007 were evaluated based on the actual materials and the design parameters of the emissions units' exhaust system, as specified by the permittee in the permit application. The Ohio EPA's "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these

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emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN 3.0, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
 - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
 - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC).
- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic contaminant: Manganese

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Maximum Hourly Emission Rate (lbs/hr): 0.25 (permit total)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 1.02MAGLC (ug/m³): 4.76**Toxic contaminant:** Zinc OxideTLV (mg/m³): 10

Maximum Hourly Emission Rate (lbs/hr): 1.91 (permit total)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 12.92MAGLC (ug/m³): 238**Toxic contaminant:** HClTLV (mg/m³): 2.99

Maximum Hourly Emission Rate (lbs/hr): 1.21 (permit total)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 3.13MAGLC (ug/m³): 52

The permittee, has demonstrated that emissions of Manganese, Zinc Oxide, HCl from emissions units P004, P005, P006, and P007, are calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic contaminant in accordance with ORC 3704.03(F).

7. Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
 - a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

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If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the ORC 3704.03(F), the statute, has been documented. If the change(s) meet(s) the definition of a "modification" or if a new toxic is emitted, or the modeled toxic(s) is/are expected to exceed the previous modeled level(s), then the permittee shall apply for and obtain a final permit-to-install prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit-to-install application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and may require the permittee to submit a permit-to-install application for the increased emissions.

8. The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute":
 - a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with ORC 3704.03(F);
 - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. the documentation of the initial evaluation of compliance with ORC 3704.03(F) and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
9. The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. The record shall

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include the date and reason(s) for the change and if the change would increase the ground-level concentration.

D. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the baghouse stack(s) serving this emissions unit (b) identify all days during which any visible fugitive particulate emissions were observed from the egress points serving this emissions unit (c) describe any corrective actions taken to eliminate the visible particulate emissions from the baghouse stack(s) and (d) describe any corrective actions taken to eliminate the visible fugitive particulate emissions from the egress points serving this emissions unit. These reports shall be submitted to the Ohio EPA, NWDO by January 31 and July 31 of each year and shall cover the previous 6-month period.
2. The permittee shall submit deviation (excursion) reports that identify any time periods when the emissions unit was in operation and either of the baghouses was not operating. Each report shall be submitted within 30 days after the deviation occurs.
3. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment (post combustion chamber) during the operation of this emissions unit:
 - a. all 3-hour blocks of time during which the combustion temperature within the post combustion chamber, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent performance test that demonstrated the emissions unit was in compliance.
 - b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;
 - c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the temperature into compliance with the acceptable range, was determined to be necessary and was not taken; and
 - d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous

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calendar quarter.

4. The permittee shall submit annual records that summarize the total annual production for this emissions unit, in tons of pig iron. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.
5. The permittee shall submit annual reports to the appropriate Ohio EPA District Office or local air agency, documenting any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions unit(s) or the exhaust stack have been made, then the report shall include a statement to this effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

E. Testing Requirements

1. The permittee shall conduct emissions testing on the primary baghouse controlling this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions units will be operated, but not later than 180 days after initial startup of such emissions units.
 - b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emissions rate for CO, SO₂, NO_x, OC, and the allowable outlet grain loading concentration for PM₁₀ for the primary baghouse.
 - c. The following test methods shall be employed to demonstrate compliance with the above emissions limitations:
 - i. for PM₁₀, Methods 1-4 of 40 CFR Part 60, Appendix A, and Methods 201/201a and 202 of 40 CFR Part 51, Appendix M;
 - ii. for NO_x, Methods 1-4 and 7 of 40 CFR Part 60, Appendix A;
 - iii. for CO, Methods 1-4 and 10 of 40 CFR Part 60, Appendix A;
 - iv. for SO₂ Methods 1-4 and 6c of 40 CFR Part 60, Appendix A;
 - v. for OC Methods 1-4 and 18, 25 or 25a of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, NWDO.

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- d. The test(s) shall be conducted while this emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Ohio EPA, NWDO.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, NWDO's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, NWDO shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report of the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, NWDO within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, NWDO.

- f. During the performance test, the permittee shall monitor and record the temperature of the post combustion chamber and include these results in the stack test report.
 - g. As part of the stack test report, the permittee shall calculate an emission factor for CO, NO_x, SO₂, and OC in units of lb/ton of iron processed.
2. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
 - 1.87 lbs of NO_x/hour;
 - 2.20 lbs of CO/hour;
 - 0.77 lb of SO₂/hour;
 - 1.45 lb of OC/hour;

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Applicable Compliance Method

Compliance with the hourly emission limitations shall be demonstrated through performance testing as described in Condition E.1.

- b. Emissions Limitation
8.19 tons of NO_x/year
9.65 tons of CO/year

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3.35 tons of SO₂/year
6.33 tons of OC/year

Applicable Compliance Method

Compliance with the annual emission limitation shall be demonstrated through the record keeping as described in Condition C.5.

- c. Emissions Limitation for the Primary Baghouse:
0.005 grain/dscf of PM₁₀ and 1.10 tons PM₁₀/year

Applicable Compliance Method

Compliance with the grain/dscf emission limitation shall be demonstrated by testing in accordance with the requirements specified in Condition E.1.

The annual emission limitation represents the potential to emit for this portion of the emissions unit. The potential to emit was established by multiplying the maximum outlet concentration of 0.005 grain PM₁₀/dscf by a maximum volumetric air flow of 5,885 acfm, applying the appropriate conversion factors of 7000 grains/lb, 1 dscf/1acfm, and 60 minutes/hr and multiplying by 8760 hrs/year and dividing by 2000 lbs/ton. Therefore, as long as compliance with the 0.005 gr/dscf is maintained, compliance with the annual PM₁₀ limitation shall be assumed.

- d. Emission Limitation for the Secondary Baghouse:
0.005 grain of PM₁₀/dscf, and 27.78 tons PM₁₀/year

Applicable Compliance Method:

The 0.005 grain of PM₁₀/dscf emission limitation was established in accordance with the manufacturer's specifications for the maximum outlet grain loading concentration for this baghouse.

If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A, and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The annual emission limitation represents the potential to emit for this portion of the emissions unit. The potential to emit was established by multiplying the maximum outlet concentration of 0.005 grain PM₁₀/dscf by a maximum volumetric air flow of 148,000 acfm, applying the appropriate conversion factors

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of 7000 grains/lb, 1 dscf/1acfm, and 60 minutes/hr and multiplying by 8760 hrs/year and dividing by 2000 lbs/ton. Therefore, as long as compliance with the 0.005 gr/dscf is maintained, compliance with the annual PM10 limitation shall be assumed.

e. Emission Limitation from the Primary Baghouse:

Visible particulate emissions shall not exceed 0% opacity as a 6-minute average

Applicable Compliance Method:

Compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources."

F. Miscellaneous Requirements

1. In addition to the above requirements, the permittee shall be required to maintain analysis on the baghouse dust generated by this emissions unit. At a minimum, samples shall be analyzed for the manganese, lead, cadmium, chromium, zinc, and mercury contents. The results shall be reported in weight percent. This analysis shall be conducted by the permittee in accordance with U.S. EPA test methods and procedures. Within 180 days after startup of this emissions unit, the permittee shall propose a sampling frequency for performing the analysis. After 12 months of analysis, the permittee can propose a lower sampling frequency if it can demonstrate that the dust generated is consistent in nature in regards to metal content.

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PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment -(P008) - Ladle Preheater

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(C)	1.30 lbs of Nitrogen oxides (NOx)/hour and 5.69 tons NOx/year 1.09 lbs Carbon monoxide (CO)/hr and 4.78 tons CO/year 0.10 lb particulate matter 10 microns or less in size (PM10)/hour and 0.43 ton PM10/year Visible particulate emissions shall not exceed 0% opacity, as a six-minute average See A.2.a.
OAC rule 3745-17-11(B)	See A.2.b.
OAC rule 3745-17-07(A)	See A.2.c.
OAC rule 3745-18-06	See A.2.d.
OAC rule 3745-21-08(B)	See A.2.e.

2. Additional Terms and Conditions

- 2.a Permit to Install 03-17375 for this air contaminant source takes into account the following voluntary restrictions as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

- i. the use of natural gas.

The potential to emit (PTE) for NOx, CO, and PM10 are based on the physical capacity of the unit and the use of natural gas.

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The PTE for NO_x was established by multiplying the AP-42 emission factor of 100 lbs NO_x/mmcf (Section 1.4 (7/98) by the emission units' maximum heat input capacity of 13.0 mmBtu/hr then dividing by the heating value of natural gas of 1000 mmscf/mmBtu and a maximum operating schedule of 8760 hrs/yr, and dividing by 2000lbs/ton resulting in 5.69 tons NO_x/yr.

The PTE for CO was established by multiplying the AP-42 emission factor of 84 lbs NO_x/mmcf (Section 1.4 (7/98) by the emission units' maximum heat input capacity of 13.0 mmBtu/hr then dividing by the heating value of natural gas of 1000 mmscf/mmBtu and a maximum operating schedule of 8760 hrs/yr, and dividing by 2000lbs/ton resulting in 4.78 tons CO/yr.

The PTE for PM₁₀ was established by multiplying the AP-42 emission factor of 7.6 lbs PM₁₀/mmcf (Section 1.4 (7/98) by the emission units' maximum heat input capacity of 13.0 mmBtu/hr then dividing by the heating value of natural gas of 1000 mmscf/mmBtu and a maximum operating schedule of 8760 hrs/yr, and dividing by 2000lbs/ton resulting in 0.43 tons PM₁₀/yr.

- 2.b** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(C). This determination is based on all emissions of particulate matter being PM₁₀ and the established PM₁₀ limitation being more restrictive than particulate emissions limitation established by OAC rule 3745-17-11(B). Particulate emissions (PE) measured using Method 5 of 40 CFR Part 60, Appendix A would be equivalent to the filterable particulates measured using Method 201/201A of 40 CFR, Part 51, Appendix M. A PM₁₀ limitation is more stringent due to the inclusion of condensable particulate matter measured by Method 202 of 40 CFR, Part 51, Appendix M.
- 2.c** The opacity restriction specified by this rule is less stringent than the opacity restriction established pursuant to OAC rule 3745-31-05(C).
- 2.d** This emissions unit is exempt from the requirements of OAC rule 3745-18-06 in accordance with OAC rule 3745-18-06(A).
- 2.e** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

Zinc + Iron Recycling of Ohio, LLC**DTI Application: 02-1727E****Facility ID:****0326000207**Emissions Unit ID: **P008**

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

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B. Operational Restrictions

1. The permittee shall burn only natural gas in this emissions unit.

C. Monitoring and/or Recordkeeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in the emissions unit. These reports shall be submitted to Ohio EPA, Northwest District Office (NWDO) within 30 days after the deviation occurs.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitations:
1.30 lbs NOx/hour and 5.69 tons NOx/year

Applicable Compliance Method:

The hourly emissions limitation was established by multiplying the AP-42 emission factor of 100 lbs NOx/mmcf (Section 1.4 (7/98) by the emission units' maximum heat input capacity of 13.0 mmBtu/hr then dividing by the heating value of natural gas of 1000 mmscf/mmBtu.

If required, the permittee shall demonstrate compliance in accordance with Methods 1 through 4 and 7 of 40 CFR, Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.

The annual emission limitation represents the PTE of the emissions unit. The annual emission limitation was developed by multiplying the hourly allowable

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emission limitation by the maximum operating schedule of 8760 hours/year, and applying the conversion factor of 2000 lb/ton. Therefore, if compliance is shown with the hourly limitation, compliance with the annual limitation shall be assumed.

- b. Emissions Limitations:
1.09 lbs CO/hour and 4.78 tons CO/year

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Applicable Compliance Method:

The hourly emissions limitation was established by multiplying the AP-42 emission factor of 84 lbs CO/mmcf (Section 1.4 (7/98) by the emission units' maximum heat input capacity of 13.0 mmBtu/hr then dividing by the heating value of natural gas of 1000 mmscf/mmBtu.

If required, the permittee shall demonstrate compliance in accordance Methods 1 through 4 and 10 of 40 CFR, Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.

The annual emission limitation represents the PTE of the emissions unit. The annual emission limitation was developed by multiplying the hourly allowable emission limitation by the maximum operating schedule of 8760 hours/year, and applying the conversion factor of 2000 lb/ton. Therefore, if compliance is shown with the hourly limitation, compliance with the annual limitation shall be assumed.

- c. Emissions Limitations:
0.10 lb PM10/hour and 0.43 ton PM10/year

Applicable Compliance Method:

The hourly emissions limitation was established by multiplying the AP-42 emission factor of 7.6 lbs PM10/mmcf (Section 1.4 (7/98) by the emission units' maximum heat input capacity of 13.0 mmBtu/hr then dividing by the heating value of natural gas of 1000 mmscf/mmBtu.

If required, the permittee shall demonstrate compliance in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A, and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.

The annual emission limitation represents the PTE of the emissions unit. The annual emission limitation was developed by multiplying the hourly allowable emission limitation by the maximum operating schedule of 8760 hours/year, and

Emissions Unit ID: **P008**

applying the conversion factor of 2000 lb/ton. Therefore, if compliance is shown with the hourly limitation, compliance with the annual limitation shall be assumed.

- d. Emission Limitation:
Visible particulate emissions shall not exceed 0% opacity as a 6-minute average

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Applicable Compliance Method:

If required, compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources."

F. Miscellaneous Requirements

None

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PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment - (P009) - Pig Caster Heater

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(C)	0.90 lb of Nitrogen oxides (NO _x)/hour and 3.94 tons NO _x /year 0.76 lb of Carbon monoxide (CO)/hr and 3.31 tons CO/year 0.07 lb particulate matter 10 microns or less in size (PM ₁₀)/hour and 0.30 ton PM ₁₀ /year Visible particulate emissions shall not exceed 0% opacity, as a six-minute average See A.2.a.
OAC rule 3745-17-11(B)	See A.2.b.
OAC rule 3745-17-07(A)	See A.2.c.
OAC rule 3745-18-06	See A.2.d.
OAC rule 3745-21-08(B)	See A.2.e.

2. Additional Terms and Conditions

- 2.a Permit to Install 03-17375 for this air contaminant source takes into account the following voluntary restrictions as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

- i. the use of natural gas.

The potential to emit (PTE) for NO_x, CO, and PM₁₀ are based on the physical capacity of the unit and the use of natural gas.

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The PTE for NO_x was established by multiplying the AP-42 emission factor of 100 lbs NO_x/mmcf (Section 1.4 (7/98)) by the emission units' maximum heat input capacity of 9.0 mmBtu/hr then dividing by the heating value of natural gas of 1000 mmscf/mmBtu and a maximum operating schedule of 8760 hrs/yr, and dividing by 2000lbs/ton resulting in 3.94 tons NO_x/yr.

The PTE for CO was established by multiplying the AP-42 emission factor of 84 lbs CO/mmcf (Section 1.4 (7/98)) by the emission units' maximum heat input capacity of 9.0 mmBtu/hr then dividing by the heating value of natural gas of 1000 mmscf/mmBtu and a maximum operating schedule of 8760 hrs/yr, and dividing by 2000lbs/ton resulting in 3.31 tons CO/yr.

The PTE for PM₁₀ was established by multiplying the AP-42 emission factor of 7.6 lbs PM₁₀/mmcf (Section 1.4 (7/98)) by the emission units' maximum heat input capacity of 9.0 mmBtu/hr then dividing by the heating value of natural gas of 1000 mmscf/mmBtu and a maximum operating schedule of 8760 hrs/yr, and dividing by 2000lbs/ton resulting in 0.30 tons PM₁₀/yr.

- 2.b** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(C). This determination is based on all emissions of particulate matter being PM₁₀ and the established PM₁₀ limitation being more restrictive than particulate emissions limitation established by OAC rule 3745-17-11(B). Particulate emissions (PE) measured using Method 5 of 40 CFR Part 60, Appendix A would be equivalent to the filterable particulates measured using Method 201/201A of 40 CFR, Part 51, Appendix M. A PM₁₀ limitation is more stringent due to the inclusion of condensable particulate matter measured by Method 202 of 40 CFR, Part 51, Appendix M.
- 2.c** The opacity restriction specified by this rule is less stringent than the opacity restriction established pursuant to OAC rule 3745-31-05(C).
- 2.d** This emissions unit is exempt from the requirements of OAC rule 3745-18-06 in accordance with OAC rule 3745-18-06(A).
- 2.e** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

Emissions Unit ID: **P009**

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

2.f For the purposes of this permit, all PE is considered to be PM10.

B. Operational Restrictions

1. The permittee shall burn only natural gas in this emissions unit.

C. Monitoring and/or Recordkeeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in the emissions unit. These reports shall be submitted to Ohio EPA, Northwest District Office (NWDO) within 30 days after the deviation occurs.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.I.1. of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitations:
0.90 lb of NO_x/hour and 3.94 tons NO_x/year

Applicable Compliance Method:

The hourly emissions limitation was established by multiplying the AP-42 emission factor of 100 lbs NO_x/mmcf (Section 1.4 (7/98) by the emission units' maximum heat input capacity of 9.0 mmBtu/hr then dividing by the heating value of natural gas of 1000 mmscf/mmBtu.

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If required, the permittee shall demonstrate compliance in accordance with Methods 1 through 4 and 7 of 40 CFR, Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.

The annual emission limitation represents the PTE of the emissions unit. The annual emission limitation was developed by multiplying the hourly allowable emission limitation by the maximum operating schedule of 8760 hours/year, and applying the conversion factor of 2000 lb/ton. Therefore, if compliance is shown with the hourly limitation, compliance with the annual limitation shall be assumed.

- b. Emissions Limitations:
0.76 lb of CO/hour and 3.31 tons CO/year

Emissions Unit ID: **P009**Applicable Compliance Method:

The hourly emissions limitation was established by multiplying the AP-42 emission factor of 84 lbs CO/mmcf (Section 1.4 (7/98) by the emission units' maximum heat input capacity of 9.0 mmBtu/hr then dividing by the heating value of natural gas of 1000 mmscf/mmBtu.

If required, the permittee shall demonstrate compliance in accordance Methods 1 through 4 and 10 of 40 CFR, Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.

The annual emission limitation represents the PTE of the emissions unit. The annual emission limitation was developed by multiplying the hourly allowable emission limitation by the maximum operating schedule of 8760 hours/year, and applying the conversion factor of 2000 lb/ton. Therefore, if compliance is shown with the hourly limitation, compliance with the annual limitation shall be assumed.

c. Emissions Limitations:

0.07 lb of PM10/hour and 0.30 ton PM10/year

Applicable Compliance Method:

The hourly emissions limitation was established by multiplying the AP-42 emission factor of 7.6 lbs PM10/mmcf (Section 1.4 (7/98) by the emission units' maximum heat input capacity of 9.0 mmBtu/hr then dividing by the heating value of natural gas of 1000 mmscf/mmBtu.

If required, the permittee shall demonstrate compliance in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A, and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.

The annual emission limitation represents the PTE of the emissions unit. The annual emission limitation was developed by multiplying the hourly allowable emission limitation by the maximum operating schedule of 8760 hours/year, and applying the conversion factor of 2000 lb/ton. Therefore, if compliance is shown

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with the hourly limitation, compliance with the annual limitation shall be assumed.

- d. Emission Limitation:
Visible particulate emissions shall not exceed 0% opacity as a 6-minute average

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Applicable Compliance Method:

If required, compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources."

F. Miscellaneous Requirements

None